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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Antony L. Baughn

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EXAMINER

SPAHN, GAY

ART UNIT

PAPER NUMBER

3635

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/796,969	Applicant(s) BAUGHN ET AL.	
	Examiner Gay Ann Spahn	Art Unit 3635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2008 and 18 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-36 is/are pending in the application.
- 4a) Of the above claim(s) 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-16 and 18-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2008 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to because:

(1) Fig. 1, the arrow at the end of the lead lines leading from reference numeral “30” (all three occurrences) to the mitered surface should be deleted as not in compliance with 37 C.F.R. § 1.84(r)(1-3); and

(2) Fig. 2, section line 6-6 should be moved to “slice” through the lower perimeter rail member 18 as section lines must cut through a structure or else section line 6-6 should be deleted and the brief description of Fig. 6 should be changed to state that the figure is an end elevational view.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New

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Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 1-8, 10-14, and 18-23 is objected to because of the following informalities:

(1) **claim 1**, line 14, the recitation of "one said longitudinal rail members" should be changed to --one of said longitudinal rail members--;

(2) **claim 2**, line 4, the recitation of --the longitudinal rail-- should be changed to --the longitudinal rail member--;

(3) **claim 2**, line 5, the recitation of --the longitudinal rail-- should be changed to --the longitudinal rail member--;

(4) **claim 3**, lines 1-2, the recitation of "a first of said longitudinal rails" should be changed to --a first of said longitudinal ~~[[rails]]~~ rail members--;

(5) **claim 3**, line 2, the examiner questions whether the recitation of "a first secondary rail" should be changed to --a first secondary rail member--;

(6) **claim 3**, line 3, the recitation of "said first longitudinal rail" should be changed to --said first longitudinal rail member--;

(7) **claim 3**, line 3, the recitation of "a second of said longitudinal rails" should be changed to --a second of said longitudinal ~~[[rails]]~~ rail members--;

(8) **claim 3**, line 4, the examiner questions whether the recitation of "a second secondary rail" should be changed to --a second secondary rail member--;

(9) **claim 3**, line 4, the recitation of "said second longitudinal rail" should be changed to --said second longitudinal rail member--;

(10) **claim 3**, line 5, the recitation of "said first longitudinal rail" should be changed to --said first longitudinal rail member--;

(11) **claim 3**, line 5, the recitation of "said second longitudinal rail" should be changed to --said second longitudinal rail member--;

(12) **claim 3**, lines 5-6, the recitation of "said rectangular unitary frame" should be changed to --said ~~rectangular~~ unitary frame--;

(13) **claim 4**, line 1, the recitation of "a first secondary rail" should at least be changed to --[[a]] the first secondary rail—and perhaps should be changed to --[[a]] the first secondary rail member--;

(14) **claim 4**, line 2, the recitation of "said first longitudinal rail" should be changed to --said first longitudinal rail member--;

(15) **claim 4**, lines 2-3, the recitation of "said first longitudinal rail retaining structure" should be changed to --said first longitudinal rail member retaining structure--;

(16) **claim 4**, line 3, the recitation of "a second secondary rail" should at least be changed to --[[a]] the second secondary rail—and perhaps should be changed to --[[a]] the second secondary rail member--;

(17) **claim 4**, lines 3-4, the recitation of "said second longitudinal rail" should be changed to --said second longitudinal rail member--;

(18) **claim 4**, line 4, the recitation of "said second longitudinal rail retaining structure" should be changed to --said second longitudinal rail member retaining structure--;

(19) **claim 4**, line 5, the examiner questions whether the recitation of "said first secondary rail" should be changed to --said first secondary rail member--;

(20) **claim 4**, line 5, the examiner questions whether the recitation of "said second secondary rail" should be changed to --said second secondary rail member--;

(21) **claim 4**, line 8, the examiner questions whether the recitation of "said first secondary rail" should be changed to --said first secondary rail member--;

(22) **claim 4**, line 9, the examiner questions whether the recitation of "said second secondary rail" should be changed to --said second secondary rail member--;

(23) **claim 5**, lines 1-2, the recitation of "a third of said longitudinal rails" should be changed to --a third of said longitudinal [[rails]] rail members--;

(24) **claim 5**, line 2, the examiner questions whether the recitation of "a pair of third secondary rails" should be changed to --a pair of third secondary [[rails]] rail members--;

(25) **claim 5**, line 3, the recitation of "said third longitudinal rail" should be changed to --said third longitudinal rail member--;

(26) **claim 5**, lines 3-4, the recitation of "a fourth of said longitudinal rails" should be changed to --a fourth of said longitudinal [[rails]] rail members--;

(27) **claim 5**, line 4, the examiner questions whether the recitation of "a pair of fourth secondary rails" should be changed to --a pair of fourth secondary ~~[[rails]]~~ rail members--;

(28) **claim 5**, line 5, the recitation of "said fourth longitudinal rail" should be changed to --said fourth longitudinal rail member--;

(29) **claim 5**, lines 5-6, the recitation of "said third longitudinal rail" should be changed to --said third longitudinal rail member--;

(30) **claim 5**, line 6, the recitation of "said fourth longitudinal rail" should be changed to --said fourth longitudinal rail member--;

(31) **claim 5**, lines 6-7, the recitation of "said rectangular unitary frame" should be changed to --said ~~rectangular~~ unitary frame--;

(32) **claim 5**, line 7, the recitation of "said first and second longitudinal rails" should be changed to --said first and second longitudinal ~~[[rails]]~~ rail members--;

(33) **claim 6**, line 4, the recitation of "said through hole" is not clear because there are through holes in the center louver support rail and through holes in the first and second secondary rails so that it is not understood which through hole is being referred to;

(34) **claim 7**, line 4, the recitation of "said louver-support through hole" is not clear because there are louver-support through holes in the center louver support rail and louver-support through holes in the first and second secondary rails so that it is not understood which louver-support through hole is being referred to;

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(35) **claim 7**, line 6, the recitation of "said center louver support" should be changed to –said center louver support rail--;

(36) **claim 7**, line 6, the recitation of "said third longitudinal rail" should be changed to --said third longitudinal rail member--;

(37) **claim 7**, line 7, the recitation of "said center louver support" should be changed to –said center louver support rail--;

(38) **claim 7**, lines 7-8, the recitation of "said fourth longitudinal rail" should be changed to --said fourth longitudinal rail member--;

(39) **claim 7**, line 8, the recitation of "said center louver support" should be changed to –said center louver support rail--;

(40) **claim 7**, line 9, the examiner questions whether the recitation of "said pair of third secondary rails" should be changed to –said pair of third secondary [[rails]] rail members--;

(41) **claim 7**, line 9, the examiner questions whether the recitation of "said pair of fourth secondary rails" should be changed to –said pair of fourth secondary [[rails]] rail members--;

(42) **claim 8**, lines 2-3, the recitation of "said center louver support member" should be changed to –said center louver support ~~member~~ rail--;

(43) **claim 8**, line 4, the recitation of "said center louver support member" should be changed to –said center louver support ~~member~~ rail--;

(44) **claim 8**, line 5, the recitation of "said center louver support " should be changed to –said center louver support rail--;

(45) **claim 8**, line 6, the examiner questions whether the recitation of "said pair of third secondary rails" should be changed to --said pair of third secondary ~~[[rails]] rail members--~~;

(46) **claim 8**, lines 6-7, the recitation of "said fourth longitudinal rail" should be changed to --said fourth longitudinal rail ~~member--~~;

(47) **claim 8**, line 8, the examiner questions whether the recitation of "said pair of third secondary rails" should be changed to --said pair of third secondary ~~[[rails]] rail members--~~;

(48) **claim 8**, lines 8-9, the recitation of "said second longitudinal rail" should be changed to --said second longitudinal rail ~~member--~~;

(49) **claim 8**, line 11, the recitation of "said center louver support " should be changed to --said center louver support ~~rail--~~;

(50) **claim 8**, line 12, the examiner questions whether the recitation of "said pair of fourth secondary rails" should be changed to --said pair of fourth secondary ~~[[rails]] rail members--~~;

(51) **claim 8**, lines 12-13, the recitation of "said fourth longitudinal rail" should be changed to --said fourth longitudinal rail ~~member--~~;

(52) **claim 8**, line 14, the examiner questions whether the recitation of "said pair of fourth secondary rails" should be changed to --said pair of fourth secondary ~~[[rails]] rail members--~~;

(53) **claim 8**, lines 14-15, the recitation of "said second longitudinal rail" should be changed to --said second longitudinal rail ~~member--~~;

(54) **claim 10**, line 6, the recitation of "said longitudinal rails" should be changed to –said longitudinal ~~[[rails]]~~ rail members--;

(55) **claim 11**, line 5, the recitation of "said at least two longitudinal rails" should be changed to –said at least two longitudinal ~~[[rails]]~~ rail members--;

(56) **claim 11**, line 6, the recitation of "said at least two longitudinal rails" should be changed to –said at least two longitudinal ~~[[rails]]~~ rail members--;

(57) **claim 11**, line 5, the recitation of "said corner connection member" should be changed to –said at least one of said four corner connection members--;

(58) **claim 11**, lines 7-8, the recitation of "said at least two longitudinal rails" should be changed to –said at least two longitudinal ~~[[rails]]~~ rail members--;

(57) **claim 11**, line 8, the recitation of "said corner connection member" should be changed to –said at least one of said four corner connection members--;

(58) **claim 12**, lines 1-2, the recitation of "said first longitudinal rail" should be changed to --said first longitudinal rail member--;

(59) **claim 12**, lines 12-13, the recitation of "said first rail" should be changed to --said first longitudinal rail member--;

(59) **claim 12**, line 3, the recitation of "said rail" should be changed to --said first longitudinal rail member--;

(60) **claim 12**, lines 6-7, the examiner questions whether the recitation of "said first secondary rail" should be changed to –said first secondary ~~[[rails]]~~ rail member--;

(61) **claim 12**, line 8, the examiner questions whether the recitation of "said first secondary rail" should be changed to –said first secondary ~~[[rails]]~~ rail member--;

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(62) **claim 13**, lines 1-2, the recitation of "all of said first, second, third, and fourth longitudinal rails" should be changed to --all of the four longitudinal rail members--;

(62) **claim 14**, lines 1-2, the recitation of "all of said first, second, third, and fourth longitudinal rails" should be changed to --all of the four longitudinal rail members--;

(63) **claim 18**, lines 1-2, the recitation of "at least said first frame corner connection member" should be changed to --at least one of said ~~first frame~~ four corner connection ~~member~~ members--;

(64) **claim 18**, lines 2-3, the recitation of "its second projection member" should be changed to --its second projection ~~member~~--;

(65) **claim 19**, lines 1-2, the recitation of "at least said first frame corner connection member" should be changed to --at least one of said ~~first frame~~ four corner connection ~~member~~ members--;

(66) **claim 19**, lines 2-3, the recitation of "its second projection member" should be changed to --its second projection ~~member~~--;

(67) **claim 20**, lines 2-3, the recitation of "its second projection member" should be changed to --its second projection ~~member~~--;

(68) **claim 21**, lines 2-3, the recitation of "its second projection member" should be changed to --its second projection ~~member~~--;

(69) **claim 22**, line 7, the recitation of "the plurality" should be changed to --the plurality of louver support receptacles--;

(70) **claim 22**, line 7, the recitation of "the first pair of rails" should be changed to --the first pair of perimeter rails--;

(71) **claim 22**, line 8, the recitation of "the plurality" should be changed to --the plurality of louver support receptacles--;

(72) **claim 22**, line 8, the recitation of "the first pair of rails" should be changed to --the first pair of perimeter rails--;

(73) **claim 22**, line 15, it is believed that the recitation of "said one of said second pair of perimeter rails" should be changed to -- said one of said ~~second~~ first pair of perimeter rails --;

(74) **claim 22**, lines 16-17, it is believed that the recitation of "the other of said second pair of perimeter rails" should be changed to --the other of said ~~second~~ first pair of perimeter rails --;

(75) **claim 23**, line 13, the word --a-- should be inserted between the words "includes" and "latch".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 22, 32-35, 26-28, and 36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the

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inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 22, lines 19-21, the recitation of "wherein each of said plurality of louvers is supported by the center louver support rail but is not coupled to the center louver support rail for increasing the strength of said plurality of louvers with respect to airborne objects" constitutes new matter as not supported by the original disclosure. The only place in the specification that the examiner found a discussion concerning this recitation was in paragraph no. [0079], but the subject matter in paragraph no [0079] is not enough to support this newly added recitation.

Claim 26, lines 19-21, the recitation of "wherein each of said plurality of louvers is supported by the center louver support rail but is not coupled to the center louver support rail for increasing the strength of said plurality of louvers with respect to airborne objects" constitutes new matter as not supported by the original disclosure. The only place in the specification that the examiner found a discussion concerning this recitation was in paragraph no. [0079], but the subject matter in paragraph no [0079] is not enough to support this newly added recitation.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-8, 10-15, 16, 18-21, 26-31, 33, 34, and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point

out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, lines 17-18, the recitation of “said at least one longitudinal rail that is a hollow box” is vague, indefinite, and confusing as lacking antecedent basis. First, no “at least one longitudinal rail” has been previously introduced (i.e., is this referring back to “one of said four longitudinal rail members” introduced in lines 5-6?). Second, what does “that is a hollow box” mean?

Claim 1, line 18, the recitation of “said rail” is vague, indefinite, and confusing as lacking antecedent basis. Is this referring back to one of the four longitudinal rail members?

Claim 1, line 19, the recitation of “another of said longitudinal rails” is vague, indefinite, and confusing as lacking antecedent basis. Is this referring back to one of the four longitudinal rail members?

Claim 1, line 22, the recitation of “the corner connectors” is vague, indefinite, and confusing as lacking antecedent basis since it is not clear if this is referring back to the “four corner connection members” introduced in line 11.

Claim 2, lines 1-4, the recitation of “at least one of said four longitudinal rail members is a hollow structure having an inner channel” is vague, indefinite, and confusing as lacking antecedent basis since it is not clear if this is referring back to “said at least one longitudinal rail that is a hollow box includes an elongated clearance passage form an exterior of said rail to a channel” recited in claim 1, lines 17-18.

Claim 11, lines 7-8, the recitation of “said at least two longitudinal rails” is vague, indefinite, and confusing as lacking antecedent basis and should be changed to --said at least two longitudinal ~~[[rails]]~~ rail members-- for proper antecedent basis.

Claim 15, line 26, the recitation of “said four frame outer frame members” is vague, indefinite, and confusing as lacking antecedent basis and should be changed to --said first, second, third, and fourth outer frame members--.

Claim 15, lines 27-28, the recitation of “said four frame corner connection members” is vague, indefinite, and confusing as lacking antecedent basis and should be changed to --said first, second, third, and fourth corner connection members--.

Claim 15, line 30, the recitation of “said four frame corner connection members” is vague, indefinite, and confusing as lacking antecedent basis and should be changed to --said first, second, third, and fourth corner connection members--.

Claim 15, lines 32-33, the recitation of “the unitary frame” is vague, indefinite, and confusing as lacking antecedent basis.

Claim 15, line 33, the recitation of “the latch pin receiver mount” is vague, indefinite, and confusing as lacking antecedent basis because it is not clear if this is referring back to the “latch pin receiver” so that the word “mount” should simply be deleted or if it is introducing a new structural element of a latch pin receiver mount.

Claim 15, line 35, the recitation of “said four frame corner connection members” is vague, indefinite, and confusing as lacking antecedent basis and should be changed to --said first, second, third, and fourth corner connection members--.

Claim 26, line 29, the recitation of “a first projection” is vague, indefinite, and confusing as lacking antecedent basis because it is not clear if this is referring back to the “first projection” introduced on line 22 or is in addition thereto.

Claim 26, line 39, the recitation of “said another of said longitudinal rails” is vague, indefinite, and confusing as lacking antecedent basis for not clearly referring back to either of the pairs of perimeter rails.

Claim 26, line 47, the recitation of “said unitary frame” is vague, indefinite, and confusing as lacking antecedent basis for not clearly referring back to “a rectangular frame structure” introduced in line 3.

Claim 27, lines 1-4, the recitation of “said four corner connection members comprise a plurality of longitudinal grooves separated by a plurality of lands on at least one surface of at least one of said four corner connection members, wherein the plurality of lands corresponds to a plurality of grooves within said perimeter rails” is vague, indefinite, and confusing as reciting the same subject matter already recited in claim 26, lines 24-27 and therefore, amounts to a double recitation of the same subject matter.

Claim 28, line 2, the recitation of “the latch pin receiver mount” is vague, indefinite, and confusing as lacking antecedent basis because it is not clear if this is referring back to the “latch pin receiver” so that the word “mount” should simply be deleted or if it is introducing a new structural element of a latch pin receiver mount.

Claim 29, line 2, the recitation of “the latch pin receiver mount” is vague, indefinite, and confusing as lacking antecedent basis because it is not clear if this is

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referring back to the "latch pin receiver" so that the word "mount" should simply be deleted or if it is introducing a new structural element of a latch pin receiver mount.

Claim 33, line 1, the recitation of "said corner connectors" is vague, indefinite, and confusing as lacking antecedent basis for not clearly referring back to the corner connection members.

Claim 34, line 2, the recitation of "the latch pin receiver mount" is vague, indefinite, and confusing as lacking antecedent basis because it is not clear if this is referring back to the "latch pin receiver" so that the word "mount" should simply be deleted or if it is introducing a new structural element of a latch pin receiver mount.

Claim 36, line 2, the recitation of "the latch pin receiver mount" is vague, indefinite, and confusing as lacking antecedent basis because it is not clear if this is referring back to the "latch pin receiver" so that the word "mount" should simply be deleted or if it is introducing a new structural element of a latch pin receiver mount.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 22 is rejected under 35 U.S.C. 102(b) as being anticipated by FOSTER ET AL. (U.S. Patent No. 6,536,174).

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As to claim 22, FOSTER ET AL. discloses a shutter for protection of building portals against forces exerted by hurricanes, comprising:

a rectangular frame structure (10) having a first pair of perimeter rails (16, 18) parallel to and spaced apart from one another, and a second pair of perimeter rails (12, 14) parallel to and spaced apart from one another and perpendicular to the first pair of perimeter rails (16, 18), said first pair of perimeter rails (16, 18) secured to said second pair of perimeter rails (12, 14), wherein each of the first pair of perimeter rails (16, 18) includes a plurality of louver support receptacles (30) arranged such that the plurality (30) included in one (16) of if the first pair of rails (16, 18) faces and is aligned with the plurality (30) included in the other (18) of the first pair of rails (16, 18);

a center louver support rail (20) extending parallel to the first pair of perimeter rails (16, 18), having one of its distal ends secured to a first (12) of said second pair of perimeter rails (12, 14), and the other of its distal ends secured to the other (14) of said second pair of perimeter rails (12, 14), wherein said center louver support rail (20) includes a plurality of louver support through holes (32/34);

a plurality of louvers (22), each of said plurality of louvers (22) having a first of its distal ends extending into and supported by a corresponding one of said plurality of louver support receptacles (30) formed in said one of said second [sic – first] pair of perimeter rails (16, 18), the other of its distal ends extending into and supported by a corresponding one of said plurality of louver support receptacles (30) formed in the other of said second [sic – first] pair of perimeter rails (16, 18), and extending through a

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corresponding one of said plurality of louver support through holes (32/34) formed in said center louver support rail (20); and

wherein each of said plurality of louvers (22) is supported by the center louver support rail (20) but is not coupled to the center louver support rail “for increasing the strength of said plurality of louvers with respect to airborne objects” (the structure of FOSTER ET AL. is capable of performing the recited intended use within quotation marks).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 11, 15, 18-21, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by ESCUDERO RIBAS (U.S. Patent No. 3,638,383) in view of any one of WHITE (U.S. Patent No. 5,450,701), GUILLEMET (U.S. Patent No. 5,431,211), and SILVERMAN (U.S. Patent No. 6,845,593).

As to claim 1 (and as best understood despite the 35 U.S.C. § 112, second paragraph, indefiniteness discussed above), ESCUDERO RIBAS discloses a shutter for protection of building portals against forces exerted by hurricanes, comprising:

a unitary frame (left and right stiles 1, 1, and top and bottom rails 21, 21)
including:

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four longitudinal rail members (1, 1, 21, 21), each longitudinal rail member (1, 1, 21, 21) having a pair of opposite distal ends, said four longitudinal rail members (1, 1, 21, 21) are arranged such that one of said four longitudinal rail members is disposed along each side of a rectangular perimeter, such that one distal end of one of said longitudinal rail members (1, 1, 21, 21) substantially abuts one distal end of another of said longitudinal rail members (1, 1, 21, 21) at a respective vertex (miter corners as shown in Fig. 2) of said rectangular perimeter, each longitudinal rail member (1, 1, 21, 21) having a receptacle opening (opening to hollow space 36 or 37 of stiles 1 and openings to hollow space 39 or 40 of rails 21) at each of its distal ends and a receptacle extending more than a first distance toward its opposite distal end; and

four corner connection members (lath 33 or 34), each located at a respective one of the four vertices (at miter corners) of said rectangular perimeter, and each corner connection member having a first projection (1st leg of 33 or 34) and a second projection (2nd leg of 33 or 34), said first projection (1st leg of 33 or 34) extending said first distance into and bonded to (by glue - see claim 6) a surface of the receptacle of one said longitudinal rail members (1, 1, 21, 21) and said second projection (2nd leg of 33 or 34) extending said first distance into and bonded to (by glue - see claim 6) a surface of the receptacle of another of said longitudinal rail members (1, 1, 21, 21); and

a portal covering structure (fins 18) secured to and supported by (via 8, 9, 10, 11, 12, 13) said unitary frame (1, 1, 21, 21).

ESCUDEIRO RIBAS fails to explicitly disclose that at least one of said four corner connection members has a latch-pin passage extending through its first projection in its

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extending direction, said at least one longitudinal rail that is a hollow box includes an elongated clearance passage from an exterior of said rail to a channel, extending in the direction of said channel, and another of said longitudinal rails includes a latch pin clearance hole, and further comprising: a latch pin extending through and supported by said latch-pin passage, wherein the corner connectors flex for reducing bending and twisting forces applied to said unitary frame.

Any one of WHITE, GUILLEMET, and SILVERMAN discloses corner connector members (24 in Fig. 2 of WHITE; 13 in Fig. 1 of GUILLEMET; and 42 in Fig. 1 of SILVERMAN) having a latch-pin passage (55 or 50 in WHITE; 26 in Fig. 2 and 36 in Fig. 3 of GUILLEMET; and above wall 55 and slot 58 in Fig. 1 of SILVERMAN) extending through its first projection in its extending direction, said at least one longitudinal rail (28 and 24 in WHITE; 12 and square of 13 of GUILLEMET; and 10 and 48 in SILVERMAN) that is a hollow box includes an elongated clearance passage from an exterior of said rail (28 and 24 in WHITE; 12 and square of 13 of GUILLEMET; and 10 and 48 in SILVERMAN) to said channel (inside of 28 and 54 through 24 in WHITE; 18, 26, 36 of GUILLEMET; and inside of 10, above 52, and 58 in Fig. 1 of SILVERMAN), extending in the direction of said channel (inside of 28 and 54 through 24 in WHITE; 18, 26, 36 of GUILLEMET; and inside of 10, above 52, and 58 in Fig. 1 of SILVERMAN), and another of said longitudinal rails (26, 50 of WHITE; 11, 14, 13 of GUILLEMET; and 60, 48 of SILVERMAN) includes a latch pin clearance hole (what end of bolt 36 goes through of WHITE; what 38 goes through of GUILLEMET; and what 32 goes through of SILVERMAN), and further comprising: a latch pin (end of bolt 36 of WHITE; 38 of

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GUILLEMET; and 32 of SILVERMAN) extending through and supported by said latch-pin clearance through hole (what end of bolt 36 goes through of WHITE; what 38 goes through of GUILLEMET; and what 32 goes through of SILVERMAN) of said corner connection member (24 in Fig. 2 of WHITE; 13 in Fig. 1 of GUILLEMET; and 42 in Fig. 1 of SILVERMAN), wherein the corner connectors (24 in Fig. 2 of WHITE; 13 in Fig. 1 of GUILLEMET; and 42 in Fig. 1 of SILVERMAN) flex “for reducing bending and twisting forces applied to said unitary frame” (the structure of any of WHITE, GUILLEMET, and SILVERMAN is capable of performing the recited intended use within quotation marks).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shutter of ESCUDEIRO RIBAS by making at least one of said four corner connection members have a latch-pin passage extending through its first projection in its extending direction, said at least one longitudinal rail that is a hollow box includes an elongated clearance passage from an exterior of said rail to said channel, extending in the direction of said channel, and another of said longitudinal rails includes a latch pin clearance hole, and further comprising a latch pin extending through and supported by said latch-pin clearance through hole of said corner connection member as taught by any one of WHITE, GUILLEMET, and SILVERMAN in order to provide a means for attaching the shutter to another structure such as the wall of a building on which the shutter will be deployed.

As to claim 2 (and as best understood despite the 35 U.S.C. § 112, second paragraph, indefiniteness discussed above), ESCUDEIRO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN discloses the shutter of claim 1 as discussed

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above, and ESCUDERO RIBAS also discloses that at least one of said four longitudinal rail members (left and right stiles 1, 1, and top and bottom rails 21, 30) is a hollow structure having an inner channel opening (at top outside of spaces 36 or 37 and 39 or 40) at each of, and extending between, its two distal ends, a first length of said inner channel (36 or 37 and 39 or 40) forming the receptacle at one of the distal ends of the longitudinal rail (1, 1, 21, 30) and a second length of said inner channel (36 or 37 and 39 or 40) forming the receptacle at the other distal end of the longitudinal rail (1, 1, 21, 21).

As to claim 3 (and as best understood despite the 35 U.S.C. § 112, second paragraph, indefiniteness discussed above), ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN discloses the shutter of claim 1 as discussed above, and ESCUDERO RIBAS also discloses that a first (left 1) of said longitudinal rails (1, 1, 21, 30) includes a retaining structure (6, 7 in Fig. 2) for retaining a first secondary rail (8, 9, 10, 11, 12, 13 in Fig. 2) adjacent and parallel to said first longitudinal rail (left 1), and a second (right 1) of said longitudinal rails (1, 1, 21, 30) includes a retaining structure (6, 7) for retaining a second secondary rail (8, 9, 10, 11, 12, 13 in Fig. 2) adjacent and parallel to said second longitudinal rail (right 1), said first longitudinal rail (left 1) and said second longitudinal rail (right 1) forming facing sides of said rectangular unitary frame (1, 1, 21, 30).

As to claim 11 (and as best understood despite the 35 U.S.C. § 112, second paragraph, indefiniteness discussed above), ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN discloses the shutter of claim 1 as discussed

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above, and ESCUDEIRO RIBAS also discloses that each of the distal ends of said longitudinal rail members (1, 1, 21, 30) has a substantially 45 degree mitered surface (see 45 degree ends of 1, 21 in Fig. 2 and col. 1, line 74), and wherein at least one of said four corner connection members (33 or 34) and said receptacles (36 or 37 of 1, 39 or 40 of 21) of said at least two (1, 21) longitudinal rail members (1, 1, 21, 30) are constructed and arranged such that when said mitered surface (at 2) at one distal end of one (1) of said at least two longitudinal rails (1, 21) abuts said mitered surface (2) of at one distal end of another (21) of said at least two longitudinal rails (1, 21), the first projection of said corner connection member (33 or 34) extends said first distance into the receptacle (36 or 39 and 38 or 40) at said one distal end of said one (1) of said at least two longitudinal rails (1, 21), and the second projection of said corner connection member (33 or 34) extends said first distance into the receptacle (36 or 39 and 38 or 40) at said one distal end of said another (21) of said longitudinal rail members (1, 21).

As to claim 18, ESCUDEIRO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN discloses the shutter of claim 1 as discussed above, and ESCUDEIRO RIBAS also discloses that at least said first frame corner connection member (33 or 34 at any of four corners) has its first projection (one of extensions of L-shaped member 33 or 34) extending substantially perpendicular to its second projection member (other of extensions of L-shaped member 33 or 34).

As to claim 19, ESCUDEIRO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN discloses the shutter of claim 18 as discussed above, and ESCUDEIRO RIBAS also discloses that at least said first frame corner connection

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member (33 or 34) is an L-shaped structure, with said first projection (one of extensions of L-shaped member 33 or 34) and said second projection member (one of extensions of L-shaped member 33 or 34) extending substantially perpendicular from a common junction member to form an L shape.

As to claim 15, ESCUDERO RIBAS discloses a shutter for protection of building portals against forces exerted by hurricanes comprising:

a first outer frame member (1st 14) extending between a first distal end and a second distal end, and having a first receptacle (bounded by inner perimeter of 14 between 18 and 22) at said first distal end and a second receptacle (bounded by inner perimeter of 14 between 18 and 22) at said second distal end;

a first frame corner connection member (1st 24), having a first projection (1st leg of 1st 24) secured within said first receptacle (bounded by inner perimeter of 14 between 18 and 22) of said first outer frame member (1st 14), and having a second projection (2nd leg of 1st 24);

a second frame corner connection member (2nd 24), having a first projection (1st leg of 2nd 24) secured within said second receptacle (bounded by inner perimeter of 14 between 18 and 22) of said first outer frame member (1st 14), and having a second projection (2nd leg of 2nd 24);

a second outer frame member (2nd 14) extending between a first distal end and a second distal end, having a first receptacle (bounded by inner perimeter of 14 between 18 and 22) at said first distal end receiving and secured around said second projection

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of said first frame corner connection member (1st 24), and having a second receptacle (bounded by inner perimeter of 14 between 18 and 22) at said second distal end;

a third outer frame member (3rd 14) extending between a first distal end and a second distal end, having a first receptacle (bounded by inner perimeter of 14 between 18 and 22) at said first distal end receiving and secured around said second projection of said second frame corner connection member (2nd 24), and having a second receptacle (bounded by inner perimeter of 14 between 18 and 22) at said second distal end;

a third frame corner connection member (3rd 24), having a first projection (1st leg of 3rd 24) secured within said second receptacle of said second outer frame member (2nd 14), and having a second projection (2nd leg of 3rd 24);

a fourth frame corner connection member (4th 24), having a first projection (1st leg of 4th 24) secured within said second receptacle (bounded by inner perimeter of 14 between 18 and 22) of said third outer frame member (3rd 14), and having a second projection (2nd leg of 4th 24); and

a fourth outer frame member (4th 14) extending between a first distal end and a second distal end, having a first receptacle (bounded by inner perimeter of 14 between 18 and 22) at said first distal end receiving and secured around said second projection (2nd leg) of said third frame corner connection member (3rd 24), and having a second receptacle (bounded by inner perimeter of 14 between 18 and 22) at said second distal end receiving and secured around said second projection (2nd leg) of said fourth frame corner connection member (4th 24).

ESCUDERO RIBAS fails to explicitly disclose that at least one of said four corner connection members has a latch-pin passage extending through its first projection in its extending direction, a corresponding one of said four outer frame members further comprises an elongated clearance passage from an exterior of said corresponding outer frame member extending in an extending direction of the corresponding outer frame member, and another one of said four outer frame members includes a latch pin clearance hole, and further comprising a latch pin extending through and supported by said latch pin passage, wherein the latch pin is adapted to pass through a latch pin receiver mounted exterior to the unitary frame, wherein the latch pin receiver mount comprises a camel bracket with two side plates and a through hole in one of the two side plates for receiving an end of the latch pin, and wherein the corner connectors flex for reducing bending and twisting forces applied to said unitary frame.

The examiner notes that "is adapted to pass through a latch pin receiver mounted exterior to the unitary frame" is a recitation of intended use and as such the latch pin receiver has not been positively recited and therefore, the recitation that the latch pin receiver mount [sic] comprises a camel bracket with two side plates and a through hole in one of the two side plates for receiving an end of the latch pin has little meaning and has not been given any patentable weight as further defining a non-positively recited element.

Any one of WHITE, GUILLEMET, and SILVERMAN discloses corner connector members (24 in Fig. 2 of WHITE; 13 in Fig. 1 of GUILLEMET; and 42 in Fig. 1 of SILVERMAN) having a latch-pin passage (55 or 50 in WHITE; 26 in Fig. 2 and 36 in Fig.

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3 of GUILLEMET; and above wall 55 and slot 58 in Fig. 1 of SILVERMAN) extending through its first projection in its extending direction, a corresponding one of said four outer frame members (28 and 24 in WHITE; 12 and square of 13 of GUILLEMET; and 10 and 48 in SILVERMAN) further comprises an elongated clearance passage from an exterior of said corresponding outer frame member (28 and 24 in WHITE; 12 and square of 13 of GUILLEMET; and 10 and 48 in SILVERMAN) extending in an extending direction of the corresponding outer frame member (28 and 24 in WHITE; 12 and square of 13 of GUILLEMET; and 10 and 48 in SILVERMAN), and another one of said four outer frame members (28 and 24 in WHITE; 12 and square of 13 of GUILLEMET; and 10 and 48 in SILVERMAN) includes a latch pin clearance hole (what end of bolt 36 goes through of WHITE; what 38 goes through of GUILLEMET; and what 32 goes through of SILVERMAN), and further comprising a latch pin (end of bolt 36 of WHITE; 38 of GUILLEMET; and 32 of SILVERMAN) extending through and supported by said latch pin passage (what end of bolt 36 goes through of WHITE; what 38 goes through of GUILLEMET; and what 32 goes through of SILVERMAN), wherein the latch pin (end of bolt 36 of WHITE; 38 of GUILLEMET; and 32 of SILVERMAN) “is adapted to pass through a latch pin receiver mounted exterior to the unitary frame” (the structure of any one of WHITE, GUILLEMET, and SILVERMAN is capable of performing the recited intended use within quotation marks), and wherein the corner connectors (24 in Fig. 2 of WHITE; 13 in Fig. 1 of GUILLEMET; and 42 in Fig. 1 of SILVERMAN) flex “for reducing bending and twisting forces applied to said unitary frame” (the structure of any of

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WHITE, GUILLEMET, and SILVERMAN is capable of performing the recited intended use within quotation marks).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shutter of ESCUDERO RIBAS by making at least one of said four corner connection members have a latch-pin passage extending through its first projection in its extending direction, said at least one longitudinal rail that is a hollow box includes an elongated clearance passage from an exterior of said rail to said channel, extending in the direction of said channel, and another of said longitudinal rails includes a latch pin clearance hole, and further comprising a latch pin extending through and supported by said latch-pin clearance through hole of said corner connection member as taught by any one of WHITE, GUILLEMET, and SILVERMAN in order to provide a means for attaching the shutter to another structure such as the wall of a building on which the shutter will be deployed.

As to claim 20, ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN discloses the shutter of claim 15 as discussed above, and ESCUDERO RIBAS also discloses that at least said first frame corner connection member (33 or 34 at any of four corners) has its first projection (one of extensions of L-shaped member 33 or 34) extending substantially perpendicular to its second projection member (other of extensions of L-shaped member 33 or 34).

As to claim 21, ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN discloses the shutter of claim 20 as discussed above, and ESCUDERO RIBAS also discloses that at least said first frame corner connection

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member (33 or 34) is an L-shaped structure, with said first projection (one of extensions of L-shaped member 33 or 34) and said second projection (one of extensions of L-shaped member 33 or 34) extending substantially perpendicular from a common junction member to form an L shape.

As to claim 29, ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN discloses the shutter of claim 1 as discussed above, and the resulting shutter from the combination of ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN also discloses that the latch pin (end of bolt 36 of WHITE; 38 of GUILLEMET; and 32 of SILVERMAN) “is adapted to pass through a latch pin receiver mounted exterior to said shutter” (the structure of any one of WHITE, GUILLEMET, and SILVERMAN is capable of performing the recited intended use within quotation marks), wherein the latch pin receiver mount comprises a camel bracket with two side plates and a through hole in one of the two side plates “for receiving an end of the latch pin” (the structure of any one of WHITE, GUILLEMET, and SILVERMAN is capable of performing the recited intended use within quotation marks).

The examiner notes that the recitation of “wherein the latch pin receiver mount comprises a camel bracket with two side plates and a through hole in one of the two side plates for receiving an end of the latch pin” has little meaning and has not been given any patentable weight as further defining a structural element that has not been positively recited (i.e., either the latch pin receiver or the latch pin receiver mount is introduced in a recitation of intended use and therefore, has not been positively recited).

Claims 4, 5, 12-14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over ESCUDERO RIBAS (U.S. Patent No. 3,638,383) in view of any one of WHITE (U.S. Patent No. 5,450,701), GUILLEMET (U.S. Patent No. 5,431,211), and SILVERMAN (U.S. Patent No. 6,845,593), as applied to claim 3 and 15 above, and further in view of MATZKE (U.S. Patent No. 3,968,738).

As to claim 4 (and as best understood despite the 35 U.S.C. § 112, second paragraph, indefiniteness discussed above), ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN discloses the shutter of claim 3 as discussed above, and ESCUDERO RIBAS also discloses a first secondary rail (8/9/10/11/12/13) constrained adjacent and parallel to said first longitudinal rail (left 1) by said first longitudinal rail retaining structure (6, 7), and a second secondary rail (8/9/10/11/12/13) constrained adjacent and parallel to said second longitudinal rail (right 1) by said second longitudinal rail retaining structure (6, 7).

None of ESCUDERO RIBAS, WHITE, GUILLEMET, and SILVERMAN explicitly discloses that each of said first secondary rail and said second secondary rail includes at least one louver-support through hole, and wherein said portal covering structure comprises at least one louver supported at one end by said louver-support through hole formed in said first secondary rail and supported at its other end by said louver-support through hole formed in said second secondary rail.

MATZKE discloses a louver frame (10) having left and right longitudinal rails (13/14/15/16) and left and right secondary rails (11/17), wherein each of said first and second secondary rails (11/17) includes at least one louver-support through hole (18),

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and wherein said portal covering structure comprises at least one louver (12) supported at one end by said louver-support through hole (18) formed in said first secondary rail (11/17) and supported at its other end by said louver-support through hole (18) formed in said second secondary rail (11/17).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shutter of ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN by making the longitudinal rail to have the retaining structure as taught by MATZKE and by replacing the secondary rails and louver structure with that as taught by MATZKE in order to have separated louvers for better ventilation.

As to claim 5 (and as best understood despite the 35 U.S.C. § 112, second paragraph, indefiniteness discussed above), ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN and also in view of MATZKE discloses the shutter of claim 4 as discussed above, and the resulting shutter from the combination of ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN and also in view of MATZKE also discloses that a third (21 of ESCUDERO RIBAS) of said longitudinal rails (1, 1, 21, 30 of ESCUDERO RIBAS) includes a retaining structure (15, 16 as modified by MATZKE) for retaining a pair of third secondary rails (17, 17 of 11 as modified by MATZKE) adjacent and parallel to said third longitudinal rail (21 of ESCUDERO RIBAS), and colinear with respect to one another, and a fourth (30 of ESCUDERO RIBAS) of said longitudinal rails (1, 1, 21, 30 of ESCUDERO RIBAS) includes a retaining structure (15, 16 as modified by MATZKE) for retaining a pair of

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fourth secondary rails (17, 17 of 11 as modified by MATZKE) adjacent and parallel to said fourth longitudinal rail (30 of ESCUDERO RIBAS), and colinear with respect to one another, said third longitudinal rail (21 of ESCUDERO RIBAS) and said fourth longitudinal rail (30 of ESCUDERO RIBAS) forming facing sides (see Fig. 3 of ESCUDERO RIBAS) of said rectangular unitary frame (see Fig. 1 of ESCUDERO RIBAS) perpendicular to said first and second longitudinal rails (1, 1 of ESCUDERO RIBAS).

As to claim 12 (and as best understood despite the 35 U.S.C. § 112, second paragraph, indefiniteness discussed above), ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN and also in view of MATZKE discloses the shutter of claim 4 as discussed above, and the resulting shutter from the combination of ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN and also in view of MATZKE also discloses that the retaining structure of said first longitudinal rail (1 of ESCUDERO RIBAS) is a U-shaped channel (38 of as ESCUDERO RIBAS modified by retaining frame structure of MATZKE), extending the length of said first rail (1 of ESCUDERO RIBAS), formed of an exterior wall (unnumber end wall of 1 adjacent space 36 of Fig. 2 of ESCUDERO RIBAS) of said rail (1 of ESCUDERO RIBAS) and a pair of lateral walls (walls of 1 having mitered end surfaces in Fig. 2 of ESCUDERO RIBAS) extending parallel to one another, in a direction away from the exterior wall, with a first ridge (15 of MATZKE) extending along the distal edge of a first of said pair of lateral walls (walls of 1 having mitered end surfaces in Fig. 2 of ESCUDERO RIBAS), and a second ridge (15 of MATZKE) extending along the distal

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edge of a second of said pair of lateral walls (walls of 1 having mitered end surfaces in Fig. 2 of ESCUDEIRO RIBAS), the distance between opposing faces of said pair of lateral walls being greater than a width of said first secondary rail (11 of MATZKE), and the distance between said first ridge (15 of MATZKE) and said second ridge (15 of MATZKE) being less than said width of the first secondary rail (11 of MATZKE).

As to claim 13 (and as best understood despite the 35 U.S.C. § 112, second paragraph, indefiniteness discussed above), ESCUDEIRO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN and also in view of MATZKE discloses the shutter of claim 12 as discussed above, and the resulting shutter from the combination of ESCUDEIRO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN and also in view of MATZKE also discloses that all of said first, second, third and fourth longitudinal rails (1, 1, 21, 30 of ESCUDEIRO RIBAS as modified to have the retainer structure of MATZKE) have the same cross-section.

As to claim 14 (and as best understood despite the 35 U.S.C. § 112, second paragraph, indefiniteness discussed above), ESCUDEIRO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN and also in view of MATZKE discloses the shutter of claim 12 as discussed above, and the resulting shutter from the combination of ESCUDEIRO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN and also in view of MATZKE also discloses that all of said first, second, third and fourth secondary rails (11, 11, 11, 11 of MATZKE) have the same outer cross-sectional dimensions.

As to claim 16, ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN discloses the shutter of claim 15 as discussed above.

None of ESCUDERO RIBAS, WHITE, GUILLEMET, and SILVERMAN explicitly discloses that said first outer frame member includes a plurality of first louver-support receptacles spaced apart from one another along said first axis, said second outer frame member includes a plurality of second louver-support receptacles facing and in alignment with said plurality of first louver-support receptacles, and said portal-covering structure includes a plurality of louver members, each having a first distal end projecting into and supported by a corresponding one of said first louver support receptacles and a second distal end opposite its first distal end, projecting into and supported by a corresponding one of said second louver support receptacles.

MATZKE discloses said first outer frame member (11) includes a plurality of first louver-support receptacles (18) spaced apart from one another along said first axis, said second outer frame member (11) includes a plurality of second louver-support receptacles (18) facing and in alignment with said plurality of first louver-support receptacles (18), and said portal-covering structure (12, 12, . . .) includes a plurality of louver members (12, 12), each having a first distal end projecting into and supported by a corresponding one of said first louver support receptacles (18) and a second distal end opposite its first distal end, projecting into and supported by a corresponding one of said second louver support receptacles (18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shutter of ESCUDERO RIBAS in view of any one of

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WHITE, GUILLEMET, and SILVERMAN by making the longitudinal rail to have the retaining structure as taught by MATZKE and by replacing the secondary rails and louver structure with that as taught by MATZKE in order to have separated louvers for better ventilation.

Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over ESCUDERO RIBAS (U.S. Patent No. 3,638,383) in view of any one of WHITE (U.S. Patent No. 5,450,701), GUILLEMET (U.S. Patent No. 5,431,211), and SILVERMAN (U.S. Patent No. 6,845,593), and MATZKE (U.S. Patent No. 3,968,738), as applied to claims 4 and 5 above, and further in view of FOSTER ET AL. (U.S. Patent No. 6,536,174).

As to claim 6 (and as best understood despite the 35 U.S.C. § 112, second paragraph, indefiniteness discussed above), ESCUDERO RIBAS in view of in view of any one of WHITE, GUILLEMET, and SILVERMAN, and MATZKE discloses the shutter of claim 4 as discussed above, and ESCUDERO RIBAS also discloses a center louver support rail (unnumbered, but see under reference numeral “21” in Fig. 1 of ESCUDERO RIBAS).

None of ESCUDERO RIBAS, WHITE, GUILLEMET, SILVERMAN, and MATZKE explicitly disclose a center louver support rail having at least one louver-support through hole, secured to said unitary frame to extend substantially perpendicular to said louver, and wherein said louver passes through said through hole to be supported at a location of said louver between said louver's first and second distal ends.

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FOSTER ET AL. disclose a center louver support rail (20 comprised of 20a/20b in Figs. 1-5) having at least one louver-support through hole (34), secured to said unitary frame (12, 14, 16, 18) to extend substantially perpendicular to said louver (22), and wherein said louver (22) passes through said through hole (34) to be supported at a location of said louver (22) between said louver's (22) first and second distal ends (at 16, 18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shutter of ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN, and MATZKE by making the center louver support rail have at least one louver-support through hole, secured to said unitary frame to extend substantially perpendicular to said louver, and wherein said louver passes through said through hole to be supported at a location of said louver between said louver's first and second distal ends as taught by FOSTER ET AL. in order to better support the louvers at three locations (distal ends and center) instead of only two point support at only the distal ends.

As to claim 7 (and as best understood despite the 35 U.S.C. § 112, second paragraph, indefiniteness discussed above), ESCUDERO RIBAS in view of in view of any one of WHITE, GUILLEMET, and SILVERMAN, and MATZKE discloses the shutter of claim 5 as discussed above, and ESCUDERO RIBAS also discloses a center louver support rail (see Fig. 1).

None of ESCUDERO RIBAS, WHITE, GUILLEMET, SILVERMAN, and MATZKE explicitly disclose a center louver support rail having at least one louver-support through

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hole, secured to said unitary frame to extend substantially perpendicular to said louver, and wherein said louver passes through and is supported by said louver-support through hole to be supported at a location of said louver between said louver's first and second distal ends, and wherein a first distal end of said center louver support abuts said third longitudinal said and a second distal end of said center louver support, opposite said first distal end, abuts said fourth longitudinal rail, and said center louver support is supported from movement in a direction parallel to said louver by said pair of third secondary rails and said pair of fourth secondary rails.

FOSTER ET AL. disclose a center louver support rail (20 comprised of 20a/20b in Figs. 1-5) having at least one louver-support through hole (34), secured to said unitary frame (12, 14, 16, 18) to extend substantially perpendicular to said louver (22), and wherein said louver (22) passes through and is supported by said louver-support through hole (34) to be supported at a location of said louver (22) between said louver's (22) first and second distal ends (at 16, 18), and wherein a first distal end of said center louver support (20) abuts said third longitudinal (12) said and a second distal end of said center louver support (20), opposite said first distal end, abuts said fourth longitudinal rail (14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shutter of ESCUDEIRO RIBAS in view of in view of any one of WHITE, GUILLEMET, and SILVERMAN, and MATZKE by making the center louver support rail having at least one louver-support through hole, secured to said unitary frame to extend substantially perpendicular to said louver, and wherein said

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louver passes through and is supported by said louver-support through hole to be supported at a location of said louver between said louver's first and second distal ends, and wherein a first distal end of said center louver support abuts said third longitudinal said and a second distal end of said center louver support, opposite said first distal end, abuts said fourth longitudinal rail as taught by FOSTER ET AL. in order to better support the louvers at three locations (distal ends and center) instead of only two point support at only the distal ends.

And thus by the modifying ESCUDERO RIBAS in view of in view of any one of WHITE, GUILLEMET, and SILVERMAN, and MATZKE by FOSTER ET AL. to have the center louver support rail, the center louver support rail of the shutter resulting from the combination of ESCUDERO RIBAS in view of in view of any one of WHITE, GUILLEMET, and SILVERMAN, MATZKE, and FOSTER ET AL. would necessarily be supported from movement in a direction parallel to said louver by said pair of third secondary rails (upper rail 21 of ESCUDERO RIBAS as modified to have retainer structure 11/15/17 of MATZKE would be divided into two separate secondary rails 11, 11 to accommodate center louver support rail of FOSTER ET AL.) and said pair of fourth secondary rails (lower rail 30 of ESCUDERO RIBAS as modified to have retainer structure 11/15/17 of MATZKE would be divided into two separate secondary rails 11, 11 to accommodate center louver support rail of FOSTER ET AL.).

As to claim 8 (and as best understood despite the 35 U.S.C. § 112, second paragraph, indefiniteness discussed above), ESCUDERO RIBAS in view of in view of any one of WHITE, GUILLEMET, and SILVERMAN, MATZKE, and FOSTER ET AL.

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discloses the shutter of claim 7 as discussed above, and the resulting shutter from the combination of ESCUDERO RIBAS ESCUDERO RIBAS in view of in view of any one of WHITE, GUILLEMET, and SILVERMAN, MATZKE, and FOSTER ET AL. also discloses a first abutment member (structure similar to 31, but in upper middle longitudinal rails shown in Fig. 1 of ESCUDERO RIBAS as modified by 20 of FOSTER ET AL.) engaged with and extending from the first distal end of said center louver support member, and a second abutment member (structure similar to 31, but in lower middle longitudinal rails shown in Fig. 1 of ESCUDERO RIBAS as modified by 20 of FOSTER ET AL.) engaged with and extending from the first distal end of said center louver support member, wherein said center louver support is supported, at its first and second distal ends (upper and lower distal end of middle rail of ESCUDERO RIBAS as modified by 20 of FOSTER ET AL.), from movement in a direction parallel to said louver (22 of FOSTER ET AL.) by first and second ones of said pair of third and fourth secondary rails (11, 11 of MATZKE) abutting ends of said secondary rails of an adjacent perpendicular longitudinal rail at one end and said first and second abutment members at its other ends.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over ESCUDERO RIBAS (U.S. Patent No. 3,638,383) in view of MATZKE (U.S. Patent No. 3,968,738) and FOSTER ET AL. (U.S. Patent No. 6,536,174).

As to claim 22, ESCUDERO RIBAS discloses a shutter for protection of building portals against forces exerted by hurricanes, comprising:

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a rectangular frame structure (Fig. 1) having a first pair of perimeter rails (1, 1) parallel to and spaced apart from one another, and a second pair of perimeter rails (21, 30) parallel to and spaced apart from one another and perpendicular to the first pair of perimeter rails (1, 1), said first pair of perimeter rails (1, 1) secured to said second pair of perimeter rails (21, 31);

center louver support rail (unnumbered, but parallel to rail 1 in Fig. 1) extending parallel to the first pair of perimeter rails (1, 1), having one of its distal ends secured to a first (21) of said second pair of perimeter rails (21, 30), and the other of its distal ends secured to the other (30) of said second pair of perimeter rails (21, 30); and

a plurality of louvers (18).

ESCUADERO RIBAS fails to explicitly disclose that each of the first pair of perimeter rails includes a plurality of louver support receptacles arranged such that the plurality included in one of the first pair of rails faces and is aligned with the plurality included in the other of the first pair of rails, that said center louver support rail includes a plurality of louver support through holes, that each of said plurality of louvers has a first of its distal ends extending into and supported by a corresponding one of said plurality of louver support receptacles formed in said one of said second pair of perimeter rails, the other of its distal ends extending into and supported by a corresponding one of said plurality of louver support receptacles formed in the other of said second pair of perimeter rails, and extending through a corresponding one of said plurality of louver support through holes formed in said center louver support rail, and that each of said plurality of louvers is supported by the center louver support rail but is

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not coupled to the center louver support rail for increasing the strength of said plurality of louvers with respect to airborne objects.

MATZKE discloses a shutter having each of the first pair of perimeter rails (10 in Fig. 3) includes a plurality of louver support receptacles (18, 18) arranged such that the plurality (18, 18) included in one of the first pair of rails faces (11) and is aligned with the plurality (18, 18) included in the other of the first pair of rails (10), and that each of said plurality of louvers (12, 12) has a first of its distal ends extending into and supported by a corresponding one of said plurality of louver support receptacles (18, 18) formed in said one of said second pair of perimeter rails (10), the other of its distal ends extending into and supported by a corresponding one of said plurality of louver support receptacles (18, 18) formed in the other of said second pair of perimeter rails (10).

FOSTER ET AL. disclose a shutter having a center louver support rail (20 comprised of 20a, 20b) which includes a plurality of louver support through holes (34), wherein said louvers (22, 22) extend through a corresponding one of said plurality of louver support through holes (34) formed in said center louver support rail (20) and wherein each of said plurality of louvers (22, 22) is supported by the center louver support rail (20) but is not coupled to the center louver support rail (20) “for increasing the strength of said plurality of louvers with respect to airborne objects” (the structure of FOSTER ET AL. is capable of performing the recited intended use within quotation marks) .

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shutter of ESCUADERO RIBAS by: (1) modifying the

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longitudinal rail to have the retaining structure as taught by MATZKE and by replacing the secondary rails and louver structure with that as taught by MATZKE in order to have separated louvers for better ventilation; and (2) making the center louver support rail have at least one louver-support through hole, secured to said unitary frame to extend substantially perpendicular to said louver, and wherein said louver passes through said through hole to be supported at a location of said louver between said louver's first and second distal ends, wherein each of the plurality of louvers is supported by the center louver support rail but is not coupled to the center louver support rail as taught by FOSTER ET AL. in order to better support the louvers at three locations (distal ends and center) instead of only two point support at only the distal ends, but not attaching the louvers to the center support rail so that the louvers can be taken out for maintenance or replacement.

Claim 32-35 is rejected under 35 U.S.C. 103(a) as being unpatentable over ESCUDERO RIBAS (U.S. Patent No. 3,638,383) in view of MATZKE (U.S. Patent No. 3,968,738) and FOSTER ET AL. (U.S. Patent No. 6,536,174), as applied to claim 22 above, and further in view of any one of WHITE (U.S. Patent No. 5,450,701), GUILLEMET (U.S. Patent No. 5,431,211), and SILVERMAN (U.S. Patent No. 6,845,593) and LIQU (U.S. Patent No. 4,937,979).

As to claim 32, ESCUDERO RIBAS in view of MATZKE and FOSTER ET AL. discloses the shutter of claim 22 as discussed above, and ESCUDERO RIBAS also discloses four frame corner connection members having a first projection secured within

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a receptacle of one of the said pairs of perimeter rails, and having a second projection secured within a receptacle of another of the said pairs of perimeter rails.

None of ESCUDERO RIBAS, MATZKE, and FOSTER ET AL. explicitly discloses that the four frame corner connection members have a plurality of lands separated by a plurality of grooves complementary to a plurality of lands and a plurality of grooves within the first pair of perimeter rails and the second pair of perimeter rails; and that at least one of the said four frame corner connection members has a latch-pin passage extending through a first projection in its extending direction, a corresponding one of said pairs of perimeter rails further comprises an elongated clearance passage from an exterior of said corresponding one of said pairs of perimeter rails extending in an extending direction of the corresponding one of said pairs of perimeter rails, and another one of said pairs of perimeter rails includes a latch pin clearance hole, and further comprising a latch pin extending through and supported by said latch-pin passage.

Any one of WHITE, GUILLEMET, and SILVERMAN explicitly disclose a corner connector (24 in Fig. 2 of WHITE; 13 in Fig. 1 of GUILLEMET; and 42 in Fig. 1 of SILVERMAN), wherein at least one of the said four frame corner connection members (24 in Fig. 2 of WHITE; 13 in Fig. 1 of GUILLEMET; and 42 in Fig. 1 of SILVERMAN) has a latch-pin passage (55 or 50 in WHITE; 26 in Fig. 2 and 36 in Fig. 3 of GUILLEMET; and above wall 55 and slot 58 in Fig. 1 of SILVERMAN) extending through its first projection in its extending direction, a corresponding one of said pair of perimeter rails (28 and 24 in WHITE; 12 and square of 13 of GUILLEMET; and 10 and

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48 in SILVERMAN) further comprising an elongated clearance passage from an exterior of said corresponding one of said pair of perimeter rails (28 and 24 in WHITE; 12 and square of 13 of GUILLEMET; and 10 and 48 in SILVERMAN) to said channel (inside of 28 and 54 through 24 in WHITE; 18, 26, 36 of GUILLEMET; and inside of 10, above 52, and 58 in Fig. 1 of SILVERMAN), extending in the direction of said channel (inside of 28 and 54 through 24 in WHITE; 18, 26, 36 of GUILLEMET; and inside of 10, above 52, and 58 in Fig. 1 of SILVERMAN), and another of said longitudinal rails (26, 50 of WHITE; 11, 14, 13 of GUILLEMET; and 60, 48 of SILVERMAN) includes a latch pin clearance hole (what end of bolt 36 goes through of WHITE; what 38 goes through of GUILLEMET; and what 32 goes through of SILVERMAN), and further comprising: a latch pin (end of bolt 36 of WHITE; 38 of GUILLEMET; and 32 of SILVERMAN) extending through and supported by said latch-pin passage (what end of bolt 36 goes through of WHITE; what 38 goes through of GUILLEMET; and what 32 goes through of SILVERMAN) of said corner connection member (24 in Fig. 2 of WHITE; 13 in Fig. 1 of GUILLEMET; and 42 in Fig. 1 of SILVERMAN),.

LIQU discloses that it is well known in the art to place lands and grooves on the outside of a member (20) in order to mate with lands and grooves on the inner surface of another member (10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shutter of ESCUDEIRO RIBAS by: (1) including a latch pin guide in one of said corner connector members extending in the direction of said perimeter rail and a latch pin clearance hole aligned with said latch pin guide in one

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of said rails so that a latch pin is supported by and movable within said latch pin guide between an extended position and a retracted position, wherein, when in said extended position, a distal portion of latch pin extends through said latch pin clearance hole to protrude outward from said frame as taught by any one of WHITE, GUILLEMET, and SILVERMAN in order to connect the shutter to the structure on which it is deployed; and (2) making the L-shaped corner connection members comprise a plurality of longitudinal grooves separated by a plurality of lands on at least one surface of the L-shaped corner connection member so that the plurality of lands correspond to a plurality of grooves within the first pair of perimeter rails and a plurality of grooves within the second pair of perimeter rails as taught by LIUO in order to make a slidingly mating connection between the corner connector members and the rail so that the corner connector members will not move within the rails.

As to claim 33, ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN, and LIUO discloses the shutter of claim 32 as discussed above, and the resulting shutter from the combination of ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN, and LIUO also discloses that said corner connectors (24 in Fig. 2 of WHITE; 13 in Fig. 1 of GUILLEMET; and 42 in Fig. 1 of SILVERMAN) flex "for reducing bending and twisting forces applied to said unitary frame" (the structure of any one of WHITE, GUILLEMET, and SILVERMAN is capable of performing the recited intended use within quotation marks).

As to claim 34, ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN, and LIUO discloses the shutter of claim 32 as discussed above, and

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the resulting shutter from the combination of ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN, and LIQU also discloses that the latch pin (end of bolt 36 of WHITE; 38 of GUILLEMET; and 32 of SILVERMAN) "is adapted to pass through a latch pin receiver mounted exterior to said shutter" (the structure of the resulting shutter from the combination of ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN, and LIQU is capable of performing the recited intended use within quotation marks), wherein the latch pin receiver mount comprises a camel bracket with two side plates and a through hole in one of the two side plates "for receiving an end of the latch pin" (the structure of the resulting shutter from the combination of ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN, and LIQU is capable of performing the recited intended use within quotation marks).

The examiner notes that the recitation of "wherein the latch pin receiver mount comprises a camel bracket with two side plates and a through hole in one of the two side plates for receiving an end of the latch pin" has little meaning and has not been given any patentable weight as further defining a structural element that has not been positively recited (i.e., either the latch pin receiver or the latch pin receiver mount is introduced in a recitation of intended use and therefore, has not been positively recited).

As to claim 35, ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN, and LIQU discloses the shutter of claim 32 as discussed above, and the resulting shutter from the combination of ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN, and LIQU also discloses that at least one of

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said comer connection members (corner connector member of ESCUDERO RIBAS as modified by any one of 24 in Fig. 2 of WHITE; 13 in Fig. 1 of GUILLEMET; and 42 in Fig. 1 of SILVERMAN to have latch pin passage) comprise a plurality of longitudinal grooves (corner connector member of ESCUDERO RIBAS as modified by any one of WHITE, GUILLEMET, and SILVERMAN to have latch pin passage and as modified to have plurality of grooves as taught by LIOU) separated by a plurality of lands (corner connector member of ESCUDERO RIBAS as modified by any one of WHITE, GUILLEMET, and SILVERMAN to have latch pin passage and as modified to have plurality of lands as taught by LIOU) on at least one surface of at least one of said comer connection member (corner connector member of ESCUDERO RIBAS as modified by any one of 24 in Fig. 2 of WHITE; 13 in Fig. 1 of GUILLEMET; and 42 in Fig. 1 of SILVERMAN to have latch pin passage), wherein the plurality of lands corresponds to a plurality of grooves within said perimeter rails (perimeter rails of ESCUDERO RIBAS as modified to have plurality of lands and grooves as taught by LIOU).

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over ESCUDERO RIBAS (U.S. Patent No. 3,638,383) in view of any one of WHITE (U.S. Patent No. 5,450,701), GUILLEMET (U.S. Patent No. 5,431,211), and SILVERMAN (U.S. Patent No. 6,845,593), as applied to claim 1 above, and further in view of either HILL (U.S. Patent No. 6,345,476) or FIGUEIREDO ET AL. (U.S. Patent No. 5,549,148).

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As to claim 10 (and as best understood despite the 35 U.S.C. § 112, second paragraph, indefiniteness discussed above), ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN discloses the shutter of claim 1 as discussed above, and the resulting shutter from the combination of ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN also discloses that a latch pin receiving structure (204 in Fig. 8 of WHITE; 42 in Fig. 3 of GUILLEMET; and building that window frame in is of SILVERMAN) having a latch pin receptacle.

Neither ESCUDERO RIBAS nor any one of WHITE, GUILLEMET, and SILVERMAN explicitly discloses that the latch pin receiving structure is mounted to an exterior wall surface, and a manually rotatable screw having a threaded shaft extending through said elongated clearance passage and threadably engaged with said latch pin, with a manual contact structure exterior to said another of said longitudinal rails, wherein tightening said manually rotatable screw substantially prevents motion of said latch pin in the extending direction of said latch pin passage, and wherein loosening said manually rotatable screw allows movement of said latch pin from an extended position in which it extends through said latch pin passage, through said latch pin clearance hole and into said latch pin receptacle, to a retracted position wherein the latch pin does not extend into said latch pin receptacle.

Both HILL and FIGUEIREDO ET AL. disclose that it is well known in the shutter art to use a latch pin (30 in Fig. 9 of HILL, 100 in Fig. 9 of FIGUEIREDO ET AL.) with a thumb screw (52 in Fig. 9 of HILL, 106 in Fig. 9 of FIGUEIREDO ET AL.) for securement purposes.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shutter of ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN by substituting the latch pin with thumb screw as taught by either HILL or FIGUEIREDO ET AL. in order to more easily be able to able to lock the latch pin in a use or non-use position via the thumb screw which is easy to grasp and turn.

Claims 23-25 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over ESCUDERO RIBAS (U.S. Patent No. 3,638,383) in view of any one of WHITE (U.S. Patent No. 5,450,701), GUILLEMET (U.S. Patent No. 5,431,211), and SILVERMAN (U.S. Patent No. 6,845,593), and LIQU (U.S. Patent No. 4,937,979).

As to claim 23, ESCUDERO RIBAS discloses a shutter, comprising:

a rectangular frame structure (Fig. 1) having a first pair of perimeter rails (1, 1) parallel to and spaced apart from one another, and a second pair of perimeter rails (21, 30) parallel to and spaced apart one another and perpendicular to the first pair of perimeter rails (1, 1), said first pair of perimeter rails (1, 1) secured to said second pair of perimeter rails (21, 30) with L-shaped corner connection members (33, 34, 35).

ESCUDERO RIBAS fails to explicitly disclose that the L-shaped corner connection members comprise a plurality of longitudinal grooves separated by a plurality of lands on at least one surface of the L-shaped corner connection member,, that the plurality of lands and correspond to a plurality of grooves within the first pair of perimeter rails and a plurality of grooves within the second pair of perimeter rails, and

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that at least one of said first pair of perimeter rails includes latch pin guide extending in the direction of said perimeter rail and at least one of said second pair of perimeter rails includes a latch pin clearance hole aligned with said latch pin guide; a latch pin supported by and movable within said latch pin guide, in said direction between an extended position and a retracted position, wherein, in said extended position a distal portion of latch pin extends through said latch pin clearance hole to protrude outward from said frame.

Any one of WHITE, GUILLEMET, and SILVERMAN explicitly disclose a corner connector (24 in Fig. 2 of WHITE; 13 in Fig. 1 of GUILLEMET; and 42 in Fig. 1 of SILVERMAN), wherein at least one of said first pair of perimeter rails (28/24 and parallel rail of WHITE; 12/15/13 and parallel rail of GUILLEMET; and 10/48 and parallel rail of SILVERMAN) includes latch pin guide (55 or 50 in WHITE; 26 in Fig. 2 and 36 in Fig. 3 of GUILLEMET; and above wall 55 and slot 58 in Fig. 1 of SILVERMAN) extending in the direction of said perimeter rail (28/24 of WHITE; 12/15 of GUILLEMET; and 10/48 of SILVERMAN) and at least one of said second pair of perimeter rails (26/24 and parallel rail of WHITE; 11/14/13 and parallel rail of GUILLEMET; and 60/48 and parallel rail of SILVERMAN) includes a latch pin clearance hole (what end of bolt 36 goes through of WHITE; what 38 goes through of GUILLEMET; and what 32 goes through of SILVERMAN) aligned with said latch pin guide (55 or 50 in WHITE; 26 in Fig. 2 and 36 in Fig. 3 of GUILLEMET; and above wall 55 and slot 58 in Fig. 1 of SILVERMAN); a latch pin (36 of WHITE; 38 of GUILLEMET; and 32 of SILVERMAN) supported by and movable within said latch pin guide (55 or 50 in WHITE; 26 in Fig. 2 and 36 in Fig. 3 of

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GUILLEMET; and above wall 55 and slot 58 in Fig. 1 of SILVERMAN), in said direction between an extended position and a retracted position, wherein, in said extended position a distal portion of latch pin (36 of WHITE; 38 of GUILLEMET; and 32 of SILVERMAN) extends through said latch pin clearance hole (what end of bolt 36 goes through of WHITE; what 38 goes through of GUILLEMET; and what 32 goes through of SILVERMAN) to protrude outward from said frame.

LIQU discloses that it is well known in the art to place lands and grooves on the outside of a member (20) in order to mate with lands and grooves on the inner surface of another member (10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shutter of ESCUDEIRO RIBAS by: (1) including a latch pin guide in one of said corner connector members extending in the direction of said perimeter rail and a latch pin clearance hole aligned with said latch pin guide in one of said rails so that a latch pin is supported by and movable within said latch pin guide between an extended position and a retracted position, wherein, when in said extended position, a distal portion of latch pin extends through said latch pin clearance hole to protrude outward from said frame as taught by any one of WHITE, GUILLEMET, and SILVERMAN in order to connect the shutter to the structure on which it is deployed; and (2) making the L-shaped corner connection members comprise a plurality of longitudinal grooves separated by a plurality of lands on at least one surface of the L-shaped corner connection member so that the plurality of lands correspond to a plurality of grooves within the first pair of perimeter rails and a plurality of grooves within the second pair of

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perimeter rails as taught by LIUO in order to make a slidingly mating connection between the corner connector members and the rail so that the corner connector members will not move within the rails.

As to claim 24, ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN, and LIUO discloses the shutter of claim 23 as discussed above, and the resulting shutter from the combination of ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN, and LIUO also discloses that said at least one of said first pair of perimeter rails (28/24 and parallel rail of WHITE; 12/15/13 and parallel rail of GUILLEMET; and 10/48 and parallel rail of SILVERMAN) having said latch pin guide (55 or 50 in WHITE; 26 in Fig. 2 and 36 in Fig. 3 of GUILLEMET; and above wall 55 and slot 58 in Fig. 1 of SILVERMAN) comprises a hollow member surrounding and supporting said latch pin guide (55 or 50 in WHITE; 26 in Fig. 2 and 36 in Fig. 3 of GUILLEMET; and above wall 55 and slot 58 in Fig. 1 of SILVERMAN), and wherein said latch pin guide (55 or 50 in WHITE; 26 in Fig. 2 and 36 in Fig. 3 of GUILLEMET; and above wall 55 and slot 58 in Fig. 1 of SILVERMAN) includes a latch pin support through hole (54 of WHITE; 26/36 of GUILLEMET; and above 52, and 58 of SILVERMAN) dimensioned and arranged to accommodate and support said latch pin (36 of WHITE; 38 of GUILLEMET; and 32 of SILVERMAN) in moving between said extended and retracted position.

As to claim 25, ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN, and LIUO discloses the shutter of claim 24 as discussed above, and the resulting shutter from the combination of ESCUDERO RIBAS in view of any one of

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WHITE, GUILLEMET, and SILVERMAN, and LIQU also discloses that an elongated slot (what 56 is in of WHITE; what 47 is in of GUILLEMET; and what 36A, 36B move in of SILVERMAN) extends in a depth direction from an outer surface of said hollow member of said at least one of said first pair of perimeter rails (28/24 and parallel rail of WHITE; 12/15/13 and parallel rail of GUILLEMET; and 10/48 and parallel rail of SILVERMAN) having said latch pin guide (55 or 50 in WHITE; 26 in Fig. 2 and 36 in Fig. 3 of GUILLEMET; and above wall 55 and slot 58 in Fig. 1 of SILVERMAN) into said latch pin support through hole (54 of WHITE; 26/36 of GUILLEMET; and above 52, and 58 of SILVERMAN), and has a slot length extending in the direction that said latch pin (36 of WHITE; 38 of GUILLEMET; and 32 of SILVERMAN) moves from said extended position to said retracted position comprises a hollow member, and has a slot width, further comprising: a manual actuator member (56 of WHITE; 47 of GUILLEMET; and 36A, 36B of SILVERMAN) connected to said latch pin (36 of WHITE; 38 of GUILLEMET; and 32 of SILVERMAN) and extending outward, in a direction radial with respect to the direction that said latch pin (36 of WHITE; 38 of GUILLEMET; and 32 of SILVERMAN) moves from said extended position to said retracted position, through said slot (what 56 is in of WHITE; what 47 is in of GUILLEMET; and what 36A, 36B move in of SILVERMAN), and having a manual contact surface above said slot (what 56 is in of WHITE; what 47 is in of GUILLEMET; and what 36A, 36B move in of SILVERMAN).

As to claim 36, ESCUADERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN, and LIQU discloses the shutter of claim 23 as discussed above, and

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the resulting shutter from the combination of ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN, and LIQU also discloses that the latch pin “is adapted to pass through a latch pin receiver mounted exterior to said shutter” (the structure of the resulting shutter from the combination of ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN, and LIQU is capable of performing the recited intended use within quotation marks), wherein the latch pin receiver mount comprises a camel bracket with two side plates and a through hole in one of the two side plates “for receiving an end of the latch pin” (the structure of the resulting shutter from the combination of ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN, and LIQU is capable of performing the recited intended use within quotation marks).

Claims 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over ESCUDERO RIBAS (U.S. Patent No. 3,638,383) in view of any one of WHITE (U.S. Patent No. 5,450,701), GUILLEMET (U.S. Patent No. 5,431,211), and SILVERMAN (U.S. Patent No. 6,845,593), as applied to claims 1 and 15, respectively, above, and further in view of LIQU (U.S. Patent No. 4,937,979).

As to claim 30, ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN discloses the shutter of claim 1 as discussed above.

None of ESCUDERO RIBAS, WHITE, GUILLEMET, and SILVERMAN explicitly discloses that said four corner connection members comprise a plurality of longitudinal grooves separated by a plurality of lands on at least one surface of at least one of said

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four comer connection members, wherein the plurality of lands corresponds to a plurality of grooves within said longitudinal rail members.

LIUO discloses that it is well known in the art to place lands and grooves on the outside of a member (20) in order to mate with lands and grooves on the inner surface of another member (10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shutter of ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN by making the four comer connection members comprise a plurality of longitudinal grooves separated by a plurality of lands on at least one surface of at least one of the four comer connection members such that the plurality of lands corresponds to a plurality of grooves within the longitudinal rail members as taught by LIUO in order to make a slidingly mating connection between the corner connector members and the rail so that the corner connector members will not move within the rails.

As to claim 31, ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN discloses the shutter of claim 15 as discussed above.

None of ESCUDERO RIBAS, WHITE, GUILLEMET, and SILVERMAN explicitly discloses that at least one of said frame comer connection members comprise a plurality of longitudinal grooves separated by a plurality of lands on at least one surface of at least one of said frame comer connection member, wherein the plurality of lands corresponds to a plurality of grooves within said frame members.

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LIUO discloses that it is well known in the art to place lands and grooves on the outside of a member (20) in order to mate with lands and grooves on the inner surface of another member (10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shutter of ESCUDERO RIBAS in view of any one of WHITE, GUILLEMET, and SILVERMAN by making at least one of the frame corner connection members comprise a plurality of longitudinal grooves separated by a plurality of lands on at least one surface of at least one of the frame corner connection member such that the plurality of lands corresponds to a plurality of grooves within the frame members as taught by LIUO in order to make a slidingly mating connection between the corner connector members and the rail so that the corner connector members will not move within the rails.

Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over ESCUDERO RIBAS (U.S. Patent No. 3,638,383) in view of MATZKE (U.S. Patent No. 3,968,738), FOSTER ET AL. (U.S. Patent No. 6,536,174), any one of WHITE (U.S. Patent No. 5,450,701), GUILLEMET (U.S. Patent No. 5,431,211), and SILVERMAN (U.S. Patent No. 6,845,593), either HILL (U.S. Patent No. 6,345,476) or FIGUEIREDO ET AL. (U.S. Patent No. 5,549,148), and LIUO (U.S. Patent No. 4,937,979).

As to claim 26, ESCUDERO RIBAS discloses a shutter for protection of building portals against forces exerted by hurricanes, comprising:

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a rectangular frame structure (Fig. 1) having a first pair of perimeter rails (1, 1) parallel to and spaced apart from one another, and a second pair of perimeter rails (21, 30) parallel to and spaced apart from one another and perpendicular to the first pair of perimeter rails (1, 1), said first pair of perimeter rails (1, 1) secured to said second pair of perimeter rails (21, 31) with L-shaped corner connection members (33, 34, 35);

center louver support rail (unnumbered, but parallel to rail 1 in Fig. 1) extending parallel to the first pair of perimeter rails (1, 1), having one of its distal ends secured to a first (21) of said second pair of perimeter rails (21, 30), and the other of its distal ends secured to the other (30) of said second pair of perimeter rails (21, 30);

a plurality of louvers (18); and

four corner connection members (lath 33 or 34) having a first projection (1st leg of 33 or 34) secured within a receptacle of one of the said pairs of perimeter rails (1, 1, 21, 21), and having a second projection (2nd leg of 33 or 34) secured within a receptacle of another of the said pairs of perimeter rails (1, 1, 21, 21).

ESCUADERO RIBAS fails to explicitly disclose that: each of said plurality having a first of its distal ends extending into and supported by a corresponding one of said plurality of louver support receptacles formed in said one of said second pair of perimeter rails, the other of its distal ends extending into and supported by a corresponding one of said plurality of louver support receptacles formed in the other of said second pair of perimeter rails, and extending through a corresponding one of said plurality of louver support through holes formed in said center louver support rail; wherein each of said plurality of louvers is supported by the center louver support rail

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but is not coupled to the center louver support rail for increasing the strength of said plurality of louvers with respect to airborne objects; the four frame corner connection members have a plurality of lands separated by a plurality of grooves complementary to a plurality of lands and a plurality of grooves within the first pair of perimeter rails and the second pair of perimeter rails; at least one of the said four frame corner connection members has a latch-pin passage extending through a first projection in its extending direction, a corresponding one of said pairs of perimeter rails further comprises an elongated clearance passage from an exterior of said corresponding one of said pairs of perimeter rails extending in an extending direction of the corresponding one of said pairs of perimeter rails, another one of said pairs of perimeter rails includes a latch pin clearance hole, and further comprising a latch pin extending through and supported by said latch-pin passage; a latch pin receiving structure, having a latch pin receptacle, mounted to an exterior wall surface; a manually rotatable screw having a threaded shaft extending through said elongated clearance passage and threadably engaged with said latch pin, with a manual contact structure exterior to said another of said longitudinal rails; tightening said manually rotatable screw substantially prevents motion of said latch pin in the extending direction of said latch pin passage, and wherein loosening said manually rotatable screw allows movement of said latch pin from an extended position in which it extends through said latch pin passage, through said latch pin clearance hole and into said latch pin receptacle, to a retracted position wherein the latch pin does not extend into said latch pin receptacle; and said four frame corner connection members flex for reducing bending and twisting forces applied to said unitary frame.

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MATZKE discloses a shutter having each of the first pair of perimeter rails (10 in Fig. 3) includes a plurality of louver support receptacles (18, 18) arranged such that the plurality (18, 18) included in one of the first pair of rails faces (11) and is aligned with the plurality (18, 18) included in the other of the first pair of rails (10), and that each of said plurality of louvers (12, 12) has a first of its distal ends extending into and supported by a corresponding one of said plurality of louver support receptacles (18, 18) formed in said one of said second pair of perimeter rails (10), the other of its distal ends extending into and supported by a corresponding one of said plurality of louver support receptacles (18, 18) formed in the other of said second pair of perimeter rails (10).

FOSTER ET AL. disclose a shutter having a center louver support rail (20 comprised of 20a, 20b) which includes a plurality of louver support through holes (34), wherein said louvers (22, 22) extend through a corresponding one of said plurality of louver support through holes (34) formed in said center louver support rail (20) and wherein each of said plurality of louvers (22, 22) is supported by the center louver support rail (20) but is not coupled to the center louver support rail (20) “for increasing the strength of said plurality of louvers with respect to airborne objects” (the structure of FOSTER ET AL. is capable of performing the recited intended use within quotation marks) .

Any one of WHITE, GUILLEMET, and SILVERMAN explicitly disclose a corner connector (24 in Fig. 2 of WHITE; 13 in Fig. 1 of GUILLEMET; and 42 in Fig. 1 of SILVERMAN), wherein at least one of said first pair of perimeter rails (28/24 and parallel rail of WHITE; 12/15/13 and parallel rail of GUILLEMET; and 10/48 and parallel rail of

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SILVERMAN) includes latch pin guide (55 or 50 in WHITE; 26 in Fig. 2 and 36 in Fig. 3 of GUILLEMET; and above wall 55 and slot 58 in Fig. 1 of SILVERMAN) extending in the direction of said perimeter rail (28/24 of WHITE; 12/15 of GUILLEMET; and 10/48 of SILVERMAN) and at least one of said second pair of perimeter rails (26/24 and parallel rail of WHITE; 11/14/13 and parallel rail of GUILLEMET; and 60/48 and parallel rail of SILVERMAN) includes a latch pin clearance hole (what end of bolt 36 goes through of WHITE; what 38 goes through of GUILLEMET; and what 32 goes through of SILVERMAN) aligned with said latch pin guide (55 or 50 in WHITE; 26 in Fig. 2 and 36 in Fig. 3 of GUILLEMET; and above wall 55 and slot 58 in Fig. 1 of SILVERMAN); a latch pin (36 of WHITE; 38 of GUILLEMET; and 32 of SILVERMAN) supported by and movable within said latch pin guide (55 or 50 in WHITE; 26 in Fig. 2 and 36 in Fig. 3 of GUILLEMET; and above wall 55 and slot 58 in Fig. 1 of SILVERMAN), in said direction between an extended position and a retracted position, wherein, in said extended position a distal portion of latch pin (36 of WHITE; 38 of GUILLEMET; and 32 of SILVERMAN) extends through said latch pin clearance hole (what end of bolt 36 goes through of WHITE; what 38 goes through of GUILLEMET; and what 32 goes through of SILVERMAN) to protrude outward from said frame.

Both HILL and FIGUEIREDO ET AL. disclose that it is well known in the shutter art to use a latch pin (30 in Fig. 9 of HILL, 100 in Fig. 9 of FIGUEIREDO ET AL.) with a thumb screw (52 in Fig. 9 of HILL, 106 in Fig. 9 of FIGUEIREDO ET AL.) for securement purposes.

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LIU discloses that it is well known in the art to place lands and grooves on the outside of a member (20) in order to mate with lands and grooves on the inner surface of another member (10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shutter of ESCUDERO RIBAS by: (1) including a latch pin guide in one of said corner connector members extending in the direction of said perimeter rail and a latch pin clearance hole aligned with said latch pin guide in one of said rails so that a latch pin is supported by and movable within said latch pin guide between an extended position and a retracted position, wherein, when in said extended position, a distal portion of latch pin extends through said latch pin clearance hole to protrude outward from said frame as taught by any one of WHITE, GUILLEMET, and SILVERMAN in order to connect the shutter to the structure on which it is deployed; and (2) making the L-shaped corner connection members comprise a plurality of longitudinal grooves separated by a plurality of lands on at least one surface of the L-shaped corner connection member so that the plurality of lands correspond to a plurality of grooves within the first pair of perimeter rails and a plurality of grooves within the second pair of perimeter rails as taught by LIU in order to make a slidingly mating connection between the corner connector members and the rail so that the corner connector members will not move within the rails; (3) by substituting the latch pin with thumb screw as taught by either HILL or FIGUEIREDO ET AL. in order to more easily be able to lock the latch pin in a use or non-use position via the thumb screw which is easy to grasp and turn; (4) modifying the longitudinal rail to have the retaining structure as

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taught by MATZKE and by replacing the secondary rails and louver structure with that as taught by MATZKE in order to have separated louvers for better ventilation; (5) making the center louver support rail have at least one louver-support through hole, secured to said unitary frame to extend substantially perpendicular to said louver, and wherein said louver passes through said through hole to be supported at a location of said louver between said louver's first and second distal ends, wherein each of the plurality of louvers is supported by the center louver support rail but is not coupled to the center louver support rail as taught by FOSTER ET AL. in order to better support the louvers at three locations (distal ends and center) instead of only two point support at only the distal ends, but not attaching the louvers to the center support rail so that the louvers can be taken out for maintenance or replacement.

As to claim 27, ESCUDERO RIBAS in view of MATZKE, FOSTER ET AL., any one of WHITE, GUILLEMET, and SILVERMAN, either of HILL or FIGUEIREDO ET AL., and LIQU discloses the shutter of claim 26 as discussed above, and the resulting shutter from the combination of ESCUDERO RIBAS in view of MATZKE, FOSTER ET AL., any one of WHITE, GUILLEMET, and SILVERMAN, either of HILL or FIGUEIREDO ET AL., and LIQU also discloses that said four frame corner connection members comprise a plurality of longitudinal grooves separated by a plurality of lands on at least one surface of at least one of said four frame corner connection members, wherein the plurality of lands corresponds to a plurality of grooves within said perimeter rails.

As to claim 28, ESCUDERO RIBAS in view of MATZKE, FOSTER ET AL., any one of WHITE, GUILLEMET, and SILVERMAN, either of HILL or FIGUEIREDO ET AL.,

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and LIQU discloses the shutter of claim 26 as discussed above, and the resulting shutter from the combination of ESCUDEIRO RIBAS in view of MATZKE, FOSTER ET AL., any one of WHITE, GUILLEMET, and SILVERMAN, either of HILL or FIGUEIREDO ET AL., and LIQU also discloses that the latch pin “is adapted to pass through a latch pin receiver mounted exterior to said shutter” (the structure of the resulting shutter from the combination of ESCUDEIRO RIBAS in view of MATZKE, FOSTER ET AL., any one of WHITE, GUILLEMET, and SILVERMAN, either of HILL or FIGUEIREDO ET AL., and LIQU is capable of performing the recited intended use within quotation marks), wherein the latch pin receiver mount comprises a camel bracket with two side plates and a through hole in one of the two side plates “for receiving an end of the latch pin”.

The examiner notes that the recitation of “wherein the latch pin receiver mount comprises a camel bracket with two side plates and a through hole in one of the two side plates for receiving an end of the latch pin” has little meaning and has not been given any patentable weight as further defining a structural element that has not been positively recited (i.e., either the latch pin receiver or the latch pin receiver mount is introduced in a recitation of intended use and therefore, has not been positively recited).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gay Ann Spahn whose telephone number is (571)-272-7731. The examiner can normally be reached on Monday through Friday, 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard E. Chilcot can be reached on (571)-272-6777. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

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/Gay Ann Spahn/
Gay Ann Spahn, Primary Examiner
December 30, 2008